mortality among young birds was due to starvation and exposure to cold nights.

DISCUSSION AND CONCLUSION

The Banded Stilt has now been found nesting, or attempted nesting, at Lake Grace, Lake King, Wagga Wagga Lake (Yalgoo), Lake Ballard, Lake Marmion, Lake Disappointment (probably) and the Percival Lakes in Western Australia, and Lake Callabonna in South Australia. The Percival Lakes are the northernmost known breeding locality of this species. These are ephemeral lakes which are infrequently filled because very heavy rain is irregular, especially in arid areas. Numerous other inland lakes in the central parts of Australia are also presumably used for breeding if they contain islands and sufficient water and food (cf. Fuller, 1963). Breeding is seldom discovered because these lakes are numerous, large and difficult to survey from the ground, and often inaccessible.

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THE NOISY SCRUB-BIRD — FACT AND FICTION

By F. N. ROBINSON and G. T. SMITH

INTRODUCTION

This article has been prompted by the recent publication of incorrect and misleading information on the vocal abilities and habitat of the Noisy Scrub-bird, *Atrichornis clamosus*, (Macdonald, 1973; P. Slater, 1974). Because the general standard of these texts is good, they will be widely used as a source of information and will consequently be considered authoritative. It is therefore essential that in correcting these inaccuracies their genesis is examined in some detail.

The Noisy Scrub-bird was discovered in 1842 at Drakesbrook in the Darling Range. Between then and 1889 it was reported in other parts of the south-west corner of W.A., from Boogidup creek, Augusta, Torbay, Albany (Serventy and Whittell, 1967) and as far north of Albany as Mt. Barker (E. Slater, 1973 and pers. comm.). It was not sighted again until 1961 when H. O. Webster re-discovered it at Two Peoples Bay near Albany (Webster, 1962a). It is therefore important to consider two generations of data, namely that of the 19th century when the bird was widespread and that of the 20th century based on relatively few individuals at one location.

VOCAL BEHAVIOUR

Five observers who had first-hand contact with the bird in the period from 1842 to 1889 have described the territorial song of the male. These are worth quoting. Drummond (1843) ". . . . . and singing sweetly with loud clear notes". Gilbert (in Whittell, 1951) "It . . . . utters its loud notes while on the ground . . . . . When I first heard its extraordinary loud notes, many of which are sweet and melodious . . . . . its notes are so exceedingly loud and shrill, as to produce a ringing sensation in the ears". Masters (in Ramsay, 1866) noted ventriloquial ability, but made no mention of it being a mimic. Webb (1895) "Its note is loud and clear and piercing and sounds something like 'Cheap, Cheap, Cheap, Cheap'. The first note is short, the second, third and fourth being each a little longer and lower". Campbell (1901) "Its very peculiar loud note is a kind of sharp whistle repeated eight or nine times rapidly, with *crescendo,* concluding with a sharp crack that makes the woods resound".

The impression from these writers is of a loud, clear, almost musical (to some ears) song, but there is no mention of mimicry or of the monotonous repetition of a single note, either in their writings or in reviews by Whittell (1943) and Chisholm (1951). This is in marked contrast to the initial description of the song of the Rufous Scrub-bird *(Atrichornis rufescens)* discovered by Wilcox, who wrote (Ramsay, 1866) "I was almost inclined, although not superstitious, to think some evil spirit was playing me a trick, for at one moment it would give out its own notes apparently just in front of me, and the next minute the Spine-tailed Orthonyx *(O. spiniculata)* in another direction; then the Scrub-robin's note would be imitated in some other place . . . .". Jackson (1907) in describing his

Fig. 1.—Noisy Scrub-bird, *Atrichornis clamosus.* Female standing on nest platform looking towards nest entrance.
Photo G. T. Smith

first contact with the Rufous Scrub-bird in 1899 described it as "a great mimic".

Following the re-discovery of the Noisy Scrub-bird, Webster (1962a and b) noted of the song that "They were fairly long and were also loud and frequent" and ". . . . calls are so typical and so outstanding that once they are familiar to an observer, it is impossible to be mistaken when a call is heard". Again no mention of mimicry. However, Serventy and Whittell (1964) quote Webster as saying ". . . . . it is a superb mimic of the songs of other species living in its vicinity . . . .". Chisholm (1964) infers that the Noisy Scrub-bird mimics when he states, "Like its immediate relative, the Rufous Scrub-bird became revealed as . . . . and frequent imitations of the voices of other birds". Macdonald also (1973) writes "Loud, clear piercing 'Cheap' or 'Chip' repeated rapidly; rich vibrant song, frequently in mimic of other bird voices" and P. Slater (1974), "A rich powerful 'Chip-chip-chip- . . . . . The female call is 'Tit-tit-tit-tit'. Also mimics other species".

These statements are a result of an uncritical acceptance of an initial report on the mimetic ability of the first bird re-discovered. This bird did indeed mimic; one of us (FNR) heard it in the field, and both have heard tape recordings of its mimicry. The Noisy Scrub-bird like many Australian passerines is capable of mimicry but very rarely uses is because it has no functional significance. The bird does however have recognisable traces of mimicry in one of its song types, a song that would appear to be used in conflict situations. Robinson (1975) has suggested that the use of mimicry in the Menurae has developed from a basic passerine mimetic ability in response to conflict situations, and that through evolution it has acquired functional significance. In the Noisy Scrub-bird mimicry has been ritualized and now forms the basis of a variable song type. The mimicry of the first re-discovered bird was, we believe, the learnt response of one bird to the unusual and conflicting situation of having humans living in its territory. Subsequent close study of a number of other males has shown that mimicry is very rare, so that we conclude that most of the mimicry of the first re-discovered bird was in response to human intrusion, and that mimicry is not characteristic of Noisy Scrub-bird song.

The monotonous and repetitive character of the song of the male implicit in the descriptions of Macdonald (1973) and P. Slater (1974) is more applicable to the song of the male Rufous Scrub-bird, whose song is indeed the repetition of a single note that may be described as "chip" or "cheap".

P. Slater's (1974) description of the call of the female as "Tit-tit-tit-tit" implies a song similar to that of the male; this is incorrect as the female mainly uses two alarm notes, one of which may occasionally be repeated rapidly a number of times. She may also use a three-noted call and the non-territorial song commonly given by the male. Details of the vocal repertoire are given in Smith and Robinson (in press).

HABITAT

As with song, the early descriptions of habitat tend to be more accurate than later ones. Gilbert states (in Whittell, 1951) "It inhabits the densest and rankest vegetation, on the sides of hills and the thick grass around swamps or small running streams"; Masters (in Ramsay, 1866) ". . . . . it inhabits dense masses of vegetation consisting of tall, reedy grass and thick-growing low bushy shrubs"; Webb (1895) ". . . . . is found on the margins of fresh water swamps near Albany . . . ."; and Campbell (1901) ". . . . in the forest . . . . . the Noisy Scrub bird which lives in the thickets of undergrowth".

Webster (1962b) also gives detailed descriptions of the areas at Two Peoples Bay where the birds are found. Yet despite these excellent descriptions we find the habitat described as "sandhill scrub" (Chisholm, 1964), "Coastal heathland" and "gullies in very thick heathland (Frith, 1973),

"dense vegetation of coastal scrub and hill gullies" (Macdonald, 1973) and "coastal rushes and densely vegetated coastal gullies" (P. Slater, 1974).

Although broadly relevant to the area at Two Peoples Bay, these descriptions are misleading in that they give the wrong impression of both location and vegetative association. From our knowledge of the habitat at Two Peoples Bay and our examination of the areas where the bird was formerly found, the primary habitat is the wetter areas of the Jarrah-Marri *(Eucalyptus marginata-E. calophylla)* forest where there is some break in the canopy, as along streams and on the margins of swamps. Here the increase in light and water allow the growth of dense associations of scrubs and rush which provide the essential cover for nesting. It is worthwhile noting that the Rufous Scrub-bird *(Atrichornis rufescens)* also inhabits areas where the canopy has broken down and a dense understorey has developed.

The description of the habitat as coastal although currently correct, is incomplete as Gilbert found it at Drakesbrook in the Darling Range and as far north of Albany as Mt. Barker (in Whittell, 1943; E. Slater, 1973 and pers. comm.). Its apparent coastal occurrence is in part a reflection of the greater early exploration of the coastal areas and partly due to its occurrence in outliers of the Jarrah-Marri forest as at Two Peoples Bay and the extension of tongues of the forests towards the coast in valleys such as, Boogidup creek, and the extensive areas of swamps interdigitating with the Jarrah-Marri in the Albany area.

CONCLUSION

We have gone to some length in refuting these inaccuracies for two reasons. First, they provide an excellent example of how old and essentially accurate information can be ignored when more "modern" information is available. Secondly, we believe that a true appreciation of the nature and extent of mimetic ability in the Noisy Scrub-bird is important in understanding the evolution of passerine song (Robinson, 1975). With regard to the habitat of the Noisy Scrub-bird, it is understandable that modern books have tended to describe the area where the present sole population exists.

Whilst it is obviously true that the bird does live in gullies in very thick heathland at Two Peoples Bay, this was not the preferred or common habitat when the bird was more widespread. An appreciation of the true habitat requirements of the species is fundamental to understanding the ecology of the species and thus, hopefully, of careful management for conservation into the future.

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FROM FIELD AND STUDY

Field Wren in the Albany Area.—Serventy and Whittell *(Birds of Western Australia,* 4th edn., 1967) give the western limits of the southern range of the Field Wren *(Calamanthus fuliginosus)* as Mt. Manypeaks and Two Peoples Bay. However I have seen one individual in coastal scrub west of Albany at Jimmy Newells Harbour, 30-35 km W.S.W. of Two Peoples Bay. The date was 14 May, 1973.

—M. K. TARBURTON, Carmel College.

Redshank on North-west Coast.—On September 2, 1974 I was observing wading birds at the muddy edge of a shallow salt lake about 1 kilometre north-east of Coral Bay when my attention was attracted by one odd sandpiper feeding with a large flock of Red-capped Dotterel *(Charadrius ruficapillus).* The following description was obtained using 10 x 50 binoculars at a range of about 25 metres with a good late afternoon light.

Upper parts, nape and crown sandy brown; light "eyebrow"; dark line through eye; lower parts creamy white; bill straight, medium length, black; legs medium length, very bright crimson; overall size about equal to Grey Plover (28 cm). No call noted. Flight low and direct; rump and upper tail white, but with a narrow dark terminal band; wings with conspicuous white stripe on the upper surface.

A positive identification may not be possible from these field notes, but it seems very likely that the bird was a vagrant Redshank *(Tringa totanus).* This is not usually regarded as an Australian species, but it does regularly migrate in August and September to the Malay peninsula, Sumatra, Borneo, Java and presumably the lesser Indonesian islands, and Christmas Island, and is regarded as common on mudflats in these countries in the (southern) summer months. An occurrence at Coral Bay would imply that the normal migratory flight had been extended by about 1,500 kilometres.

—L. E. SEDGWICK, Geraldton.

Moulting Mountain Ducks on Lake Preston.—The importance of the Yalgorup National Park, south of Mandurah, including as it does such large expanses of water as Lakes Clifton and Preston is widely recognised as a haven for waterfowl, particularly during the summer and in years of severe drought (Jenkins. *W. Aust. Nat.,* 12, 1971: 28).

Probably because of its high salinity Lake Preston usually carries fewer birds than Lake Clifton, but the following report by the National Park Ranger, Mr. R. Chandler dated November 25, 1974 shows the particular importance of Lake Preston to the Mountain Duck *(Tadorna tadornoides)* and a strong reason for restricting the use of boats and particularly power boats in the area.